

DEPARTMENT OF VETERANS AFFAIRS

Justification and Approval

For

Other Than Full and Open Competition

1. Contracting Activity:

Department of Veterans Affairs
Lebanon VA Medical Center
1700 S. Lincoln Ave.
Lebanon, PA 17042

2. Nature and/or Description of the Action Being Processed:

Contractor shall furnish management, supervision, labor transportation, equipment, and materials, and perform work to include general construction, alterations, mechanical and electrical work, and certain other items as required by project drawings and specifications for:

PROJECT NO. #595-CSI-004

VACO – LEBANON VA MEDICAL CENTER

RENOVATION OF MAIN LABORATORY – B1

This acquisition is a firm-fixed price construction buy.

3. Description of Supplies/Services Required to Meet the Agency's Needs:

- a. Fire Safety – Edwards EST – REFER TO SPECIFICATION SECTION 28 31 00 FIRE DETECTION AND ALARM: The furnishing, installation, and connection of an EST-3, Edwards, Signature E Series Fire Alarm System, including alarm initiating devices, alarm notification appliances, control units, fire safety control devices, annunciators, power supplies, and wiring.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS, GENERAL

- A. The following materials are those of the General Electric/Edwards Systems Technologies Company [GE/EST] and constitutes the materials to be provided to match existing Campus System.
- B. All equipment and components shall be new and the manufacturer's current model. All equipment shall be tested and listed by Underwriters Laboratories, Inc. or Factory Mutual Research Corporation for use as part of a fire alarm system. The authorized representative of the manufacturer of the major equipment shall certify that the installation complies with all manufacturer's requirements and that satisfactory total system operation has been achieved.

2.2 CONDUIT, BOXES, AND WIRE

- A. Conduit shall be in accordance with Section 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS and as follows:
 1. All new and reused conduit shall be installed in accordance with NFPA 70.
 2. Conduit fill shall not exceed 40 percent of interior cross sectional area.

3. All new conduit shall be 19 mm (3/4 inch) minimum.
 4. All conduit will be painted red.
- B. Wire:
1. All existing wiring shall be removed and new wiring installed in a conduit or raceway.
 2. Wiring shall be in accordance with NEC article 760, Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW), and as recommended by the manufacturer of the fire alarm system. All wires shall be color coded. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG for initiating device circuits and 14 AWG for notification device circuits.
 3. Addressable circuits and wiring used for the multiplex communication loop shall be twisted and shielded unless specifically excepted by the fire alarm equipment manufacturer in writing.
 4. Any fire alarm system wiring that extends outside of a building shall have additional power surge protection to protect equipment from physical damage and false signals due to lightning, voltage and current induced transients. Protection devices shall be shown on the submittal drawings and shall be UL listed or in accordance with written manufacturer's requirements.
 5. All wire or cable used in underground conduits including those in concrete shall be listed for wet locations.
- C. Terminal Boxes, Junction Boxes, and Cabinets:
1. Shall be galvanized steel in accordance with UL requirements.
 2. All new and reused boxes shall be sized and installed in accordance with NFPA 70.
 3. New and existing covers shall be repainted red in accordance with Section 09 91 00, PAINTING and shall be identified with white markings as "FA" for junction boxes and as "FIRE ALARM SYSTEM" for cabinets and terminal boxes. Lettering shall be a minimum of 19 mm (3/4 inch) high.
 4. Terminal boxes and cabinets shall have a volume 50 percent greater than required by the NFPA 70. Minimum sized wire shall be considered as 14 AWG for calculation purposes.
 5. Terminal boxes and cabinets shall have identified pressure type terminal strips and shall be located at the base of each riser. Terminal strips shall be labeled as specified or as approved by the COTR.

2.3 FIRE ALARM SYSTEM: EDWARDS EST3 (NO SUBSTITUTIONS)

- A. General:
1. There is an existing Edwards EST3 fire alarm control unit located in Building #1. This unit shall operate as a supervised zoned fire alarm system. Provide a minimum of one CHAS7 rail, one za40 watt amplifier and 6 LRMF rail spaces. Confirm system expansion capability prior to starting any work.
 2. Each power source shall be supervised from the other source for loss of power. Provide a 10 amp booster power supply, 2 addressable synchronization control modules and 2 batteries.
 3. All circuits shall be monitored for integrity.
 4. Visually and audibly annunciate any trouble condition including, but not limited to main power failure, grounds and system wiring derangement.
 5. Transmit digital alarm information to the main fire alarm control unit.
- B. Enclosure: Cabinet and Chassis, 3-CAB / 3-RCC / 3-CHAS7

1. The control unit shall be housed in a cabinet suitable for both recessed and surface mounting. Cabinet and front shall be corrosion protected, given a rust-resistant prime coat, and manufacturer's standard finish.
 2. Cabinet shall contain all necessary relays, terminals, lamps, and legend plates to provide control for the system.
- C. Power Supply: 3-PPS/M and 3-BPS/M
1. The control unit shall derive its normal power from a 120 volt, 60 Hz dedicated supply connected to the emergency power system. Standby power shall be provided by a 24 volt DC battery as hereinafter specified. The normal power shall be transformed, rectified, coordinated, and interfaced with the standby battery and charger.
 2. The door holder power shall be arranged so that momentary or sustained loss of main operating power shall not cause the release of any door.
 3. Power supply for smoke detectors shall be taken from the fire alarm control unit.
 4. Provide protectors to protect the fire alarm equipment from damage due to lightning or voltage and current transients.
- D. Circuit Supervision: Each alarm initiating device circuit, signaling line circuit, and notification appliance circuit, shall be supervised against the occurrence of a break or ground fault condition in the field wiring. These conditions shall cause a trouble signal to sound in the control unit until manually silenced by an off switch.
- E. Supervisory Devices: All sprinkler system valves, standpipe control valves, post indicator valves (PIV), and main gate valves shall be supervised for off-normal position. Closing a valve shall sound a supervisory signal at the control unit until silenced by an off switch. The specific location of all closed valves shall be identified at the control unit. Valve operation shall not cause an alarm signal. Low air pressure switches and duct detectors shall be monitored as supervisory signals. The power supply to the elevator shunt trip breaker shall be monitored by the fire alarm system as a supervisory signal.
- F. Trouble signals:
1. Arrange the trouble signals for automatic reset (non-latching).
 2. System trouble switch off and on lamps shall be visible through the control unit door.
- G. Function Switches: Provide the following switches in addition to any other switches required for the system:
1. Remote Alarm Transmission By-pass Switch: Shall prevent transmission of all signals to the main fire alarm control unit when in the "off" position. A system trouble signal shall be energized when switch is in the off position.
 2. Alarm Off Switch: Shall disconnect power to alarm notification circuits on the local building alarm system. A system trouble signal shall be activated when switch is in the off position.
 3. Trouble Silence Switch: Shall silence the trouble signal whenever the trouble silence switch is operated. This switch shall not reset the trouble signal.
 4. Reset Switch: Shall reset the system after an alarm, provided the initiating device has been reset. The system shall lock in alarm until reset.
 5. Lamp Test Switch: A test switch or other approved convenient means shall be provided to test the indicator lamps.
 6. Drill Switch: Shall activate all notification devices without tripping the remote alarm transmitter. This switch is required only for general evacuation systems specified herein.

7. Door Holder By-Pass Switch: Shall prevent doors from releasing during fire alarm tests. A system trouble alarm shall be energized when switch is in the abnormal position.
8. Elevator recall By-Pass Switch: Shall prevent the elevators from recalling upon operation of any of the devices installed to perform that function. A system trouble alarm shall be energized when the switch is in the abnormal position.
9. HVAC/Smoke Damper By-Pass: Provide a means to disable HVAC fans from shutting down and/or smoke dampers from closing upon operation of an initiating device designed to interconnect with these devices.

2.4 VOICE COMMUNICATION SYSTEM (VCS)

A. General:

1. An emergency voice communication system shall be installed throughout the Laboratory B1 addition.
2. Upon receipt of an alarm signal from the building fire alarm system, the VCS shall automatically transmit a pre-recorded fire alarm message throughout the floor in alarm.
3. A digitized voice module shall be used to store each prerecorded message.
4. The VCS shall be arranged as a dual channel system capable of transmitting two different messages simultaneously.
5. The VCS shall supervise all speaker circuits, control equipment, remote audio control equipment, and amplifiers.

B. Speaker Circuit Control Unit:

1. The speaker circuit control unit shall include switches to manually activate or deactivate speaker circuits grouped by floor in the system.
2. Speaker circuit control switches shall provide on, off, and automatic positions and indications.
3. The speaker circuit control unit shall include visual indication of active or trouble status for each group of speaker circuits in the system.
4. A trouble indication shall be provided if a speaker circuit group is disabled.
5. A lamp test switch shall be provided to test all indicator lamps.
6. A single "all call" switch shall be provided to activate all speaker circuit groups simultaneously.

C. Speaker Circuit Arrangement:

1. Speaker circuits shall be arranged such that there is one speaker circuit per smoke zone.
2. Audio amplifiers and control equipment shall be electrically supervised for normal and abnormal conditions.
3. Speaker circuits shall be either 25 VRMS or 70.7 VRMS with a minimum of 50% spare power available.
4. Speaker circuits and control equipment shall be arranged such that loss of any one speaker circuit will not cause the loss of any other speaker circuit in the system.

D. Digitized Voice Module (DVM):

1. The Digitized Voice Module shall provide prerecorded digitized evacuation and instructional messages. The messages shall be professionally recorded and approved by the COTR prior to programming.
2. The DVM shall be configured to automatically output to the desired circuits following a 10-second slow whoop alert tone.
3. Prerecorded magnetic taped messages and tape players are not permitted.

4. The digitized message capacity shall be no less than 15 second in length.
 5. The digitized message shall be transmitted three times.
 6. The DVM shall be supervised for operational status.
 7. Failure of the DVM shall result in the transmission of a constant alarm tone.
 8. The DVM memory shall have a minimum 50% spare capacity after those messages identified in this section are recorded. Multiple DVM's may be used to obtain the required capacity.
- E. Audio Amplifiers:
1. Audio Amplifiers shall provide a minimum of 40 Watts at either 25 or 70.7 VRMS output voltage levels. Confirm output voltage with COTR.
 2. Amplifiers shall be continuously supervised for operational status.
 3. Amplifiers shall be configured for either single or dual channel application.
 4. Each audio output circuit connection shall be configurable for Style X.
 5. A minimum of 50% spare output capacity shall be available for each amplifier.
- F. Tone Generator(s):
1. Tone Generator(s) shall be capable of providing a distinctive three-pulse temporal pattern fire alarm signal as well as a slow whoop.
 2. Tone Generator(s) shall be continuously supervised for operational status.

2.5 ALARM NOTIFICATION APPLIANCES

- A. Speaker/Strobe: GE/EST Genesis Model G4-S7VM series
1. Shall operate on either 25 VRMS or 70.7 VRMS with field selectable output taps from 0.5 to 2.0W and originally installed at the one-half watt tap. Speakers shall provide a minimum sound output of 80 dBA at ten feet with the one-half watt tap.
 2. Frequency response shall be a minimum of 400 HZ to 4000 HZ.
 3. 100 mm (4 inches) or 200 mm (8 inches) cone type speakers ceiling mounted with white colored baffles in areas with suspended ceilings and wall mounted in areas without ceilings.
- B. Strobes: GE/EST Model G4EWA-A
1. Xenon flash tube type minimum 15 candela in toilet rooms and 75 candela in all other areas with a flash rate of 1 HZ. Strobes shall be synchronized where required by the National Fire Alarm Code (NFPA 72).
 2. Backplate shall be red with 13 mm (1/2 inch) permanent red letters. Lettering to read "Fire", be oriented on the wall or ceiling properly, and be visible from all viewing directions.
 3. Each strobe circuit shall have a minimum of twenty (20) percent spare capacity.
 4. Strobes may be combined with the audible notification appliances specified herein.
- C. Fire Alarm Horns:
1. Shall be electric, utilizing solid state electronic technology operating on a nominal 24 VDC.
 2. Shall be a minimum nominal rating of 80 dBA at ten feet.
 3. Mount on removable adapter plates on conduit boxes.
 4. Horns located outdoors shall be of weatherproof type with metal housing and protective grille.
 5. Each horn circuit shall have a minimum of twenty (20) percent spare capacity.

2.6 ALARM INITIATING DEVICES

- A. Manual Fire Alarm Stations: GE/EST Model SIGA-270
1. Shall be non-breakglass, address reporting type.

2. Station front shall be constructed of a durable material such as cast or extruded metal or high impact plastic. Stations shall be semi-flush type.
 3. Stations shall be of single action pull down type with suitable operating instructions provided on front in raised or depressed letters, and clearly labeled "FIRE".
 4. Operating handles shall be constructed of a durable material. On operation, the lever shall lock in alarm position and remain so until reset. A key shall be required to gain front access for resetting, or conducting tests and drills.
 5. Unless otherwise specified, all exposed parts shall be red in color and have a smooth, hard, durable finish.
- B. Smoke Detectors: GE/EST Model SIGA-PS:
1. Smoke detectors shall be UL listed for use with the fire alarm control unit being furnished.
 2. Smoke detectors shall be addressable type complying with applicable UL Standards for system type detectors. Smoke detectors shall be installed in accordance with the manufacturer's recommendations and NFPA 72.
 3. Detectors shall have an indication lamp to denote an alarm condition. Provide remote indicator lamps and identification plates where detectors are concealed from view. Locate the remote indicator lamps and identification plates flush mounted on walls so they can be observed from a normal standing position.
 4. All spot type and duct type detectors installed shall be of the photoelectric type.
 5. Photoelectric detectors shall be factory calibrated and readily field adjustable. The sensitivity of any photoelectric detector shall be factory set at 3.0 plus or minus 0.25 percent obscuration per foot.
 6. Detectors shall provide a visual trouble indication if they drift out of sensitivity range or fail internal diagnostics. Detectors shall also provide visual indication of sensitivity level upon testing. Detectors, along with the fire alarm control units shall be UL listed for testing the sensitivity of the detectors.
- C. Heat Detectors: GE/EST Model SIGA-HFS & SIGA-HRS
1. Heat detectors shall be of the addressable restorable rate compensated fixed-temperature spot type.
 2. Detectors shall have a minimum smooth ceiling rating of 2500 square feet.
 3. Ordinary temperature (135 degrees F) heat detectors shall be utilized in elevator shafts and elevator mechanical rooms. Intermediate temperature rated (200 degrees F) heat detectors shall be utilized in all other areas.
- D. Water Flow and Pressure Switches:
1. Wet pipe water flow switches and dry pipe alarm pressure switches for sprinkler systems shall be connected to the fire alarm system by way of an address reporting interface device.
 2. All new water flow switches shall be of a single manufacturer and series and non-accumulative retard type. See Section 21 12 00, FIRE-SUPPRESSION STANDPIPES and Section 21 13 13, WET-PIPE SPRINKLER SYSTEMS for new switches added. Connect all switches shown on the approved shop drawings.
 3. All new switches shall have an alarm transmission delay time that is conveniently adjustable from 0 to 60 seconds. Initial settings shall be 30-45 seconds. Timing shall be recorded and documented during testing.

2.7 SUPERVISORY DEVICES

- A. Duct Smoke Detectors: GE/EST Model SIGA-SD

1. Duct smoke detectors shall be provided and connected by way of an address reporting interface device. Detectors shall be provided with an approved duct housing mounted exterior to the duct, and shall have perforated sampling tubes extending across the full width of the duct (wall to wall). Detector placement shall be such that there is uniform airflow in the cross section of the duct.
 2. Interlocking with fans shall be provided in accordance with NFPA 90A and as specified hereinafter under Part 3.2, "TYPICAL OPERATION".
 3. Provide remote indicator lamps, key test stations and identification nameplates (e.g. "DUCT SMOKE DETECTOR AHU-X") for all duct detectors. Locate key test stations in plain view on walls or ceilings so that they can be observed and operated from a normal standing position.
- B. Sprinkler and Standpipe System Supervisory Switches:
1. Each sprinkler system water supply control valve, riser valve or zone control valve, and each standpipe system riser control valve shall be equipped with a supervisory switch. Standpipe hose valves, and test and drain valves shall not be equipped with supervisory switches.
 2. PIV (post indicator valve) or main gate valve shall be equipped with a supervisory switch.

2.8 ADDRESS REPORTING INTERFACE MODULES GE/EST MODEL SIGA-CR, SIGA-CT1, SIGA-CT2

- A. Shall have unique addresses that reports directly to the building fire alarm panel.
- B. Shall be configurable to monitor normally open or normally closed devices for both alarm and trouble conditions.
- C. Shall have terminal designations clearly differentiating between the circuit to which they are reporting from and the device that they are monitoring.
- D. Shall be UL listed for fire alarm use and compatibility with the panel to which they are connected.
- E. Shall be mounted in weatherproof housings if mounted exterior to a building.

2.9 SMOKE BARRIER DOOR CONTROL

- A. Electromagnetic Door Holders:
 1. New Door Holders shall be standard wall mounted electromagnetic type. In locations where doors do not come in contact with the wall when in the full open position, an extension post shall be added to the door bracket.
 2. Operation shall be by 24 volt DC supplied from a battery located at the fire alarm control unit. Door holders shall be coordinated as to voltage, ampere drain, and voltage drop with the battery, battery charger, wiring and fire alarm system for operation as specified.
- B. A maximum of twelve door holders shall be provided for each circuit. Door holders shall be wired to allow releasing doors by smoke zone.
- C. Door holder control circuits shall be electrically supervised.
- D. Smoke detectors shall not be incorporated as an integral part of door holders.

2.10 SPARE AND REPLACEMENT PARTS

- A. Provide spare and replacement parts as follows:
 1. Manual pull stations - 1
 2. Heat detectors - 1 of each type
 3. Fire alarm speaker/strobes - 2
 4. Fire alarm speakers - 2
 5. Smoke detectors - 1

- B. Spare and replacement parts shall be in original packaging and delivered to the COTR.
- C. Provide to the VA, all hardware, software, programming tools, license and documentation necessary to permanently modify the fire alarm system on-site. The minimum level of modification includes addition and deletion of devices, circuits, zones and changes to system description, system operation, and digitized evacuation and instructional messages.

2.11 INSTRUCTION CHART

Provide a typeset printed or typewritten instruction card mounted behind a Lexan plastic or glass cover in a stainless steel or aluminum frame with a backplate. Install the frame in a conspicuous location observable from each control unit where operations are performed. The card shall show those steps to be taken by an operator when a signal is received under all conditions, normal, alarm, supervisory, and trouble. Provide an additional copy with the binder for the input output matrix for the sequence of operation. The instructions shall be approved by the COTR before being posted.

4. Statutory Authority Permitting Other than Full and Open Competition:

- (X) (1) Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements per FAR 6.302-1;
- () (2) Unusual and Compelling Urgency per FAR 6.302-2;
- () (3) Industrial Mobilization, Engineering, Developmental or Research Capability or Expert Services per FAR 6.302-3;
- () (4) International Agreement per FAR 6.302-4
- () (5) Authorized or Required by Statute FAR 6.302-5;
- () (6) National Security per FAR 6.302-6;
- () (7) Public Interest per FAR 6.302-7;

5. Demonstration that the Contractor's Unique Qualifications or Nature of the Acquisition Requires the Use of the Authority Cited Above (applicability of authority):

- a. Fire Safety – Edwards EST – REFER TO SPECIFICATION SECTION 28 31 00 FIRE DETECTION AND ALARM: Restriction of sources for this acquisition is justified in accordance with FAR 6.302.1, the item is peculiar to one manufacturer. Although there are manufacturers of fire alarm equipment, that equipment is not compatible with the system currently in place throughout the medical center. The Edwards EST fire alarm system is exclusively used at this facility and it is in the VA's best interest to maintain consistency of the life safety system. Use of other manufacturers would lead to storing additional inventory, functioning issues due to non compatibility with existing equipment, multiplicity of service contracts, and increased training and operator requirements.

6. Description of Efforts Made to ensure that offers are solicited from as many potential sources as deemed practicable:

The AE designing this project made every effort to specify generic items, however in design process only the products listed above meet the unique design criteria of this construction project. There is no restriction on suppliers of the products specified, only on the manufacturer. While these products are specified, most can be procured from multiple sources.

7. Determination by the Contracting Officer that the Anticipated Cost to the Government will be Fair and Reasonable:

It is anticipated that the prime construction contractor will obtain multiple quotes from various suppliers for the specified items, thus ensuring fair and reasonable price determination.

8. Description of the Market Research Conducted and the Results, or a Statement of the Reasons Market Research Was Not Conducted:

No market research was conducted as the prime contractor for these products is responsible for purchase/procurement of specified products. It is anticipated that prime construction contractor will be able to obtain price competition for these items.

9. Any Other Facts Supporting the Use of Other than Full and Open Competition:

These items are specified as design criteria to complete a unique atmosphere and work environment. Deviation from these products would jeopardize the aesthetic feel and functionality of the design.

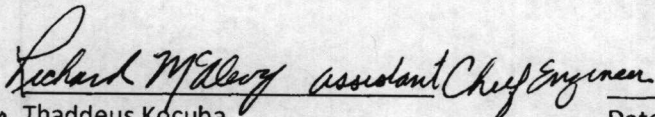
10. Listing of Sources that Expressed, in Writing, an Interest in the Acquisition:

See Section VI above.

11. A Statement of the Actions, if any, the Agency May Take to Remove or Overcome any Barriers to Competition before Making subsequent acquisitions for the supplies or services required:

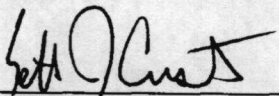
The products specified for this construction project are the only products that meet the Government's needs for the specified design. There is no restriction on suppliers of the products specified, only on the manufacturer. In the future the VA will continue to urge AE design firms to write specifications that allow for more diverse product placement and less restrictive requirements.

12. **Requirements Certification:** I certify that the requirement outlined in this justification is a Bona Fide Need of the Department of Veterans Affairs and that the supporting data under my cognizance, which are included in the justification, are accurate and complete to the best of my knowledge and belief.


for Thaddeus Kocuba *Assistant Chief Engineer* March 14, 2012
Chief of Engineering Date
Lebanon VA Medical Center

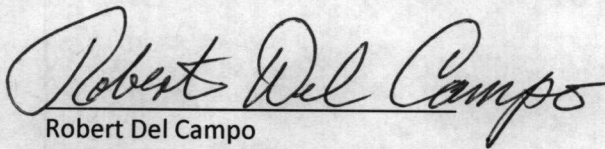
13. **Approvals in accordance with FAR 6.304**

- a. **Contracting Officer's Certification (required):** I certify that the foregoing justification is accurate and complete to the best of my knowledge and belief.


Seth J. Custer
Chief of Contracting
Lebanon VA Medical Center

3/14/12
Date

- b. **Network Contracting Manager's Delegate Certification (required):** I certify that the foregoing justification is accurate and complete to the best of my knowledge and belief.


Robert Del Campo 14 MARCH 2012
Construction Team Manager Date
NCO 4